

REMARKS/ARGUMENTS

Various claims are being amended as shown above. The claim amendments clarify the claim language and are not intended to limit the scope of the claims, unless the claim language is expressly quoted in the following remarks to distinguish over the cited art.

In section 2 of the office action, claims 1-6, 21-26, 28 and 37-55 were rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Tustaniwskyj, et al. (U.S. Patent No. 6,042,388). Applicants respectfully traverse the rejection.

Tustaniwskyj is directed to an electromechanical module 10 with pressed electrical connections including a printed circuit board 13, a thin-springy plate 16 which has a flat central section 16a, an adjacent periphery section 16b that extends away from the printed board 13, and two elongated ridges 16c in the flat central section 16a. The two elongated ridges 16c are in contact with the printed circuit board 13. Since Tustaniwskyj discloses the thin-springy plate 16 with a flat central section 16a, Tustaniwskyj does not disclose nor suggest a plate 16 that is pre-curved.

Independent claim 1 distinguishes over Tustaniwskyj at least by reciting, "attaching said pre-curved bolster plate on said second side of said substrate, wherein said pre-curved bolster plate is attached to said second side opposite said electrical contact area on said first side of said substrate," and such recited features are not disclosed or suggested by Tustaniwskyj.

Accordingly claim 1 is patentable over Tustaniwskyj.

Tustaniwskyj discloses the thin-springy plate 16 has a small spring rate (see Tustaniwskyj, column 6, lines 10-13). Therefore, it would be impracticable to have a pre-calculated radius of curvature in the thin-springy plate 16 of Tustaniwskyj, because the small spring rate of the thin-spring plate 16 will not require a radius of curvature to be pre-calculated for the thin-springy plate 16.

Furthermore, the drawings do not show and the specification text does not mention in Tustaniwskyj of a pre-calculated radius of curvature in the thin-springy plate 16. Instead, Tustaniwskyj discloses a thin-spring plate 16 with a flat central section 16a which prevents the presence of a radius of curvature for the thin-springy plate 16. In contrast, independent claim 21 distinguishes over Tustaniwskyj at least by reciting, "*attaching a pre-curved bolster plate on a second side of the substrate, the pre-curved bolster plate having a pre-calculated radius of curvature prior to attachment to the second side of the substrate,*" and such recited features are not disclosed or suggested by Tustaniwskyj.

Independent claim 37 distinguishes over Tustaniwskyj at least by reciting, "*providing a plate member that is pre-curved,*" and such recited features are not disclosed or suggested by Tustaniwskyj.

Independent claim 46 distinguishes over Tustaniwskyj at least by reciting, "*disposing a curved bolster plate against the circuit member; curving the bolster plate towards the circuit member to change the curved bolster plate into a flat bolster plate,*" and such recited features are not disclosed or suggested by Tustaniwskyj.

Claims 2-6, 22-26, 28, 38-45, and 47-55 depend from one of claims 1, 21, 37, and 46 and are each patentable over Tustaniwskyj for at least the same reasons that claims 1, 21, 37, and 46 are each patentable over Tustaniwskyj.

Accordingly, claims 2-6, 22-26, 28, 38-45, and 47-55 are each patentable over Tustaniwskyj.

Furthermore, each of the claims 2-6, 22-26, 28 and 38-45, and 47-55 distinguishes over Tustaniwskyj by reciting additional features. For example, Tustaniwskyj discloses the plate 16 as having a flat central section 16c and does not discloses the plate 16 as having a spherical curvature or cylindrical curvature. The drawings do not show and the specification text does not mention in Tustaniwskyj of the plate 16 as having a spherical curvature or cylindrical curvature. In contrast, claim 5 recites the "*pre-curved bolster plate has a spherical curvature*", and claim 6 recites the "*pre-curved bolster plate has a cylindrical curvature*". Therefore, claims 5 and 6 are each distinguishable over Tustaniwskyj.

As another example, Tustaniwskyj discloses the thin-springy plate 16 has a small spring rate (see Tustaniwskyj, column 6, lines 10-13). Therefore, the small spring rate would make it impracticable for the thin-springy plate 16 of Tustaniwskyj to be stamped so that the thin-spring plate 16 has a spherical curvature or cylindrical curvature. In contrast, claim 42 recites the "*plate member is stamped to achieve a spherical curvature*", and claim 43 recites the "*plate member is stamped to achieve a cylindrical curvature*". Therefore, claims 42 and 43 are each distinguishable over Tustaniwskyj.

As another example, Tustaniwskyj discloses the arms 16b as bent into a final position where the arms 16b nearly touch (but do not actually touch) the printed circuit board 13 (see, Tustaniwskyj, Figure 3, column 6, lines 12-15, and column 7, lines 19-21). The ridges 16c help to prevent the arms 16b from touching the printed circuit board 13 when the arms 16b are bent into their final position. In contrast, claim 39 recites that "*said flexing comprises curving opposed ends of the plate member towards a substrate of the electrical packaging assembly until the plate member is generally flushed against the substrate*". Therefore, claim 39 is distinguishable over Tustaniwskyj.

As another example, Tustaniwskyj discloses the printed circuit board 13 as a thin bendable printed circuit board (see Tustaniwskyj, column 3, lines 21-22). In contrast, claim 3 recites that the "*substrate is selected from a group of substrates consisting of: a printed circuit board (PCB), a multi-chip module (MCM), and a flexible substrate*". Therefore, claim 3 is distinguishable over Tustaniwskyj.

As another example, Tustaniwskyj discloses the plate 16 as a thin-springy plate. In contrast, claim 4 recites that the "*pre-curved bolster plate includes a material selected from the group consisting of: a stainless steel alloy, a powder-coated spring steel alloy, a plated spring steel alloy, a painted spring steel alloy, a titanium steel alloy, a carbon steel alloy, a magnesium alloy, and an aluminum alloy*". Therefore, claim 4 is distinguishable over Tustaniwskyj.

For the above reasons, Applicants request reconsideration and withdrawal of this rejection under 35 U.S.C. §102.

In section 3 of the office action, claims 7 and 27 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Tustaniwskyj, et al. (U.S. Patent No. 6,042,388). Applicants respectfully traverse the rejection.

The examiner correctly admits in the office action that Tustaniwskyj does not explicitly disclose the pre-curved bolster plate that has a radius curvature in excess of 100 inches (254 centimeter). In an attempt to overcome the deficiency of Tustaniwskyj, the Examiner asserts that the chosen dimensions are not critical to the invention.

Claims 7 and 27 depend from claim 1 and claim 21, respectively, and are each patentable over Tustaniwskyj, for at least the same reasons that claim 1 and claim 21 are each patentable over Tustaniwskyj.

Furthermore, each of the claims 27 and 27 distinguishes over Tustaniwskyj by reciting additional features.

Accordingly claims 7 and 27 are each patentable over Tustaniwskyj.

For the above reasons, Applicant requests reconsideration and withdrawal of this rejection under 35 U.S.C. §103.

New claims 56-76 are also being added, and each of the new claims recite features that are not disclosed nor suggested by Tustaniwskyj. Accordingly, the new claims 56-76 are each patentable over Tustaniwskyj.

For the above reasons, Applicants respectfully request allowance of all pending claims.

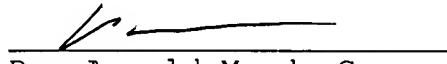
If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is respectfully requested to specifically point out where such teachings may be found.

CONTACT INFORMATION

If the Examiner has any questions or needs any additional information, the Examiner is invited to telephone the undersigned attorney at (805) 681-5078.

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